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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,878	09/23/2003	Katsumasa Yoshii	9281-4667	3612

7590

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EXAMINER

NGUYEN, HOAN C

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/668,878

Applicant(s)

YOSHII ET AL.

Examiner

HOAN C. NGUYEN

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 17-28 is/are pending in the application.
- 4a) Of the above claim(s) 21, 22, 25 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-20, 23, 24, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/23/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Applicant canceled claims 1-16 and 29-38. Claims 21-22, 25 and 28 are withdrawn.

Claims 17-20, 23-24 and 27 are elected.

### ***Response to Amendment***

Applicant's arguments with respect to claims 17-20, 23-24 and 27 based on the Response filed on 2 March 2005 have been considered but are moot in view of the same ground(s) of rejection. Therefore, this is Final action.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 17-20 and 26-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Nobuaki et al. (JP2000047199).

In regard to claim 17, Nobuaki et al. teach (Figs. 7 and 9) a reflector comprising

- a base material (thin film layer 2) having a light-reflecting surface;
- a plurality of curved portions (concavo-convex configuration), said portions being formed with random separation with respect to each other (as Fig. 7 shown) on a surface of the base material,

wherein

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- said curved portions have a plurality of shapes, in which an inclination angle (an absolute value of an angle between a plane tangential to a point on the surface of the curved portion and the surface of the base material) of each said shape is maximized on a side portion of said curved portion due to the heights of the adjoining convex portions of substantial pyramid shape are made different as Fig. 7 shown.

Claim 18:

- an intensity of incident light reflected from the curved portions inherently is preferentially increased in at least one desired angular direction at higher heights of the adjoining convex portions.

Claim 19:

- said shapes are of a concave form as viewed by an observer opposed to the light-reflecting surface as Fig. 7 shown.

Claim 20:

- at least one of the shapes is a section of an ellipsoid intersecting the reflector surface at an angle other than orthogonal to an ellipsoid axis [paragraph 16<sup>th</sup> in Detailed Description discloses the concavo-convex configuration is not limited, it is desirable a curved surface compound, the concave bend side further approximated to the spherical surface, which is special case of ellipsoid surface).

Claims 26 and 27:

- the reflector is mounted on the reflective type LCD, which comprises (Figs. 3 and 7):

- a pair of substrates 1,
- a liquid crystal layer 16 disposed between the substrates,
- the reflector 3 disposed on one of the substrates,
- a transparent intervening layer (a fattening film 14) disposed on the reflector,
- a color filter layer 11 disposed on the transparent intervening layer,
- a transparent planarization layer 19 disposed on the color filter layer,
- a transparent electrode 13 disposed on the transparent planarization layer,
- an alignment layer (an orientation film 15) disposed between the transparent electrode and the liquid crystal layer.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nobuaki et al. (JP2000047199) as applied to claims 17-20 and 26 in view of Akins et al. (US6285425B1).

Sasaki et al. fail to teach the reflector with feature in claims 23 and 24.

Akins et al. teach the reflector with base material comprising semitransparent and semi-reflective (or half mirror), thereby forming a semitransparent and semi-reflective liquid crystal display device for dual mode LCD (col. 1 line 67 to col. 2 line 5 and col. 5 lines 55-56 cited "the reflective metallic layer 568 will become discontinuous and; hence, light transmissive") according to claims 19 and 20.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a liquid crystal display device as Sasaki et al. disclosed with the reflector with the feature in claims 23-24 for dual-mode LCD as taught by Akins et al. (col. 1 line 64 to col. 2 line 5).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571) 272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim H. Robert can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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HOAN C. NGUYEN  
Examiner  
Art Unit 2871

  
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**SUPERVISORY PATENT EXAMINER**  
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